

What is Claimed:

1. A reactive adhesive, comprising at least one reaction product of reactants comprising:
diphenylmethane diisocyanate, including at least 95 wt.% of 2,4'-diphenylmethane diisocyanate; and
at least one compound selected from the group consisting of polyether-polyol, polyalkylene diol, and polyester-polyol.
2. The adhesive of claim 1, wherein said adhesive has a concentration of monomeric diisocyanate of less than 0.25 wt.%.
3. The adhesive of claim 1, wherein at least 97.5 wt. % of said diphenylmethane diisocyanate is 2,4'-diphenylmethane diisocyanate.
4. The adhesive of claim 1, wherein the NCO to OH ratio of the 2,4'-diphenylmethane diisocyanate to the sum of the polyols is 1.1 to 1.9.
5. The adhesive of claim 1, wherein the NCO to OH ratio of the 2,4'-diphenylmethane diisocyanate to the sum of the polyols is 1.2 to 1.75.
6. The adhesive of claim 1, wherein less than 0.3 wt.% of 2,2'-diphenylmethane diisocyanate is present.
7. The adhesive of claim 1, wherein less than 0.1 wt.% of 2,2'-diphenylmethane diisocyanate is present.
8. The adhesive of claim 1, wherein less than 0.06 wt.% of 2,2'-diphenylmethane diisocyanate is present.

9. The adhesive of claim 1, wherein said polyether-polyol or said polyalkylene diol has a molecular weight of less than 1,000.
10. The adhesive of claim 1, further comprising at least one reaction product of 2,4'-diphenylmethane diisocyanate and at least one compound selected from the group consisting of polyester-polyol and polyether-polyol, wherein said polyester-polyol and polyether-polyol are liquid at room temperature and have a molecular weight of greater than 1,000.
11. The adhesive of claim 4, further comprising at least one reaction product of 2,4'-diphenylmethane diisocyanate and at least one compound selected from the group consisting of polyester-polyol and polyether-polyol, wherein said polyester-polyol and polyether-polyol are liquid at room temperature and have a molecular weight of greater than 1,000.
12. The adhesive of claim 1, wherein the reaction product is crystalline, partly crystalline, or vitreously amorphous.
13. The adhesive of claim 1, wherein the adhesive is a hot melt adhesive.
14. The adhesive of claim 1, further comprising at least one adhesion-intensifying additive which is capable of migration.
15. The adhesive of claim 14, wherein the adhesion-intensifying additive is a polyisocyanate having a vapour pressure of less than 10^{-6} hPa at 20°C.
16. The adhesive of claim 14, wherein the adhesion-intensifying additive is present in less than 30 wt.%.
17. The adhesive of claim 14, wherein the adhesion-intensifying additive is present in less than 10 wt.%.

18. The adhesive of claim 14, wherein the adhesion-intensifying additive is at least one compound selected from the group consisting of thiophosphoric acid tris-(p-isocyanato-phenyl ester), triphenylmethane 4,4',4"-triisocyanate, isomeric trifunctional homologues of diphenylmethane diisocyanate (MDI), isocyanato-bis-((4-isocyanatophenyl)methyl)-benzene, 2-isocyanato-4-((3-isocyanatophenyl)methyl)-1-((4-isocyanatophenyl)methyl)-benzene, 4-isocyanato-1,2-bis((4-isocyanatophenyl)methyl)-benzene, 1-isocyanato-4-((2-isocyanatophenyl)methyl)-2-((3-isocyanatophenyl)methyl)-benzene, 4-isocyanato- α -1-(o-isocyanatophenyl)- α -3-(p-isocyanatophenyl)-m-xylene, 2-isocyanato-(o-isocyanatophenyl)- α '-(p-isocyanatophenyl)-m-xylene, 2-isocyanato-1,3-bis((2-isocyanatophenyl)methyl)-benzene, 2-isocyanato-1,4-bis((4-isocyanatophenyl)methyl)-benzene, isocyanato-bis((isocyanatophenyl)methyl)-benzene, 1-isocyanato-2,4-bis((4-isocyanatophenyl)methyl)-benzene, adducts of diisocyanates and low molecular weight triols, adducts of aromatic diisocyanates and triols, an adduct of trimethylolpropane and glycerol, a biuretization product of hexamethylene diisocyanate (HDI), an isocyanuration product of HDI, and a trimerization product of isophorone diisocyanate (IPDI), or mixtures thereof.
19. The adhesive of claim 14, wherein the adhesion-intensifying additive is an adduct of 2,4'-diphenylmethane diisocyanate and a diol with a molecular weight of less than 2,000.
20. The adhesive of claim 19, wherein, the content of monomeric diisocyanate in the adduct is less than 2 wt.%.
21. The adhesive of claim 19, wherein, the content of monomeric diisocyanate in the adduct is less than 1 wt.%.
22. The adhesive of claim 14, wherein the adhesion-intensifying additive is an adduct of 2,4'-diphenylmethane diisocyanate and a polyol with a functionality of less than 3.3.

23. The adhesive of claim 22, wherein the polyol with a functionality of less than 3.3 is trimethylopropane or glycerol.
24. The adhesive of claim 22, wherein, the content of monomeric diisocyanate in the adduct is less than 2 wt.%.
25. The adhesive of claim 22, wherein, the content of monomeric diisocyanate in the adduct is less than 1 wt.%.
26. The adhesive of claim 14, wherein the adhesion-intensifying additive is an organofunctional alkoxysilane.
27. A process for the preparation of an adhesive according to claim 1, comprising: contacting the reactants and preventing the reaction temperature from exceeding 160°C.
28. A process for the preparation of an adhesive according to claim 1, comprising: contacting the reactants and preventing the reaction temperature from exceeding 130°C.
29. A process for the preparation of an adhesive according to claim 1, comprising: contacting the reactants and preventing the reaction temperature from exceeding 110°C.
30. A process for the preparation of an adhesive according to claim 14, comprising: forming the reaction product; and thereafter adding the adhesion-intensifying additive.
31. The adhesive of claim 1, wherein said adhesive has a concentration of monomeric diisocyanate of less than 0.5 wt.%.